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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/810,639 | 03/29/2004 | Kazuhiro Takatani | 50024-033 | 9576 |

7590 01/14/2005
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| EXAMINER |
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HA, NGUYEN T

| ART UNIT | PAPER NUMBER |
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2831

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/810,639 | Applicant(s) TAKATANI ET AL. | |
| | Examiner Nguyen T Ha | Art Unit 2831 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some.* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>0304</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of group I in the reply filed on 12/06/2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 5-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al. (US 5,938,797) in view of Asami et al. (US 6,327,138).

Regarding claim 1, Fujiwara et al. disclose a solid electrolytic capacitor

(figure 2a) comprising:

- an anode (1) composed of a metal (column 3, lines 48-49, which is made of tantalum);
- a dielectric layer (3) formed on the surface of said anode (figure 3); and
- a metal layer/silver paste layer (8a) formed on the surface of said dielectric layer (figure 2a).

Fujiwara et al. fail to disclose the dielectric layer composed of an oxide of the metal as the same as the anode metal.

Asami et al. teach a capacitor having a dielectric (3) made of tantalum oxide (column 4, line 45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the dielectric made of tantalum oxide as taught by Asami et al. in Fujiwara et al., in order to provide a high capacitance for the capacitor.

Regarding claim 2, Fujiwara et al. disclose the metal layer/silver paste layer being composed of metal particles (column 4, line 45).

Regarding claim 5, Fujiwara et al. disclose the metal particles including silver (column 4, line 45).

Regarding claim 6, Fujiwara et al. disclose the metal layer including a protective colloid/graphite layer (7a, column 3, lines 58-60).

Regarding claim 8, Fujiwara et al. disclose the anode including tantalum (column 3, lines 48-49).

4. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al. (US 5,938,797) in view of Asami et al. (US 6,327,138) as applied in claim 2 above, and further in view of Deffeyes et al. (US 4,463,030).

Regarding claims 3 & 4, the teaching of Fujiwara et al. in view of Asami et al. includes all the claimed limitations discussed above with respect to claim 2, except for the average particle diameter of said metal particles being not larger than 0.05 μm or not smaller than 0.01 μm .

Deffeyes et al. teach the use of metal particles being not larger than 0.05 μm or not smaller than 0.01 μm (column 3, lines 25-33).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the capacitor of Fujiwara et al. in view of Asami et al. using the improves silver paint of Deffeyes et al., in order to form a layer having a low fusion and reduce problems inherent in differential thermal expansion.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al. (US 5,938,797) in view of Asami et al. (US 6,327,138) as applied in claim 1 above, and further in view of Fujiwara figure 2b.

Regarding claim 7, the teaching of Fujiwara et al. (figure 2a) in view of Asami et al includes all the claimed limitations with respect to claim 1 above, except for the metal layer being composed of a metal plated layer.

Fujiwara et al. (figure 2b) teach a capacitor having a plated layer
(column 4, line 6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a plated layer as taught by Fujiwara et al., (figure 2b) in Fujiwara et al. (figure 2a) in view of Asami et al., in order to provide high conductivity for the capacitor.

Citation Relevant of Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Arai et al. (US 5,621,608) disclose a solid electrolytic capacitor having two solid electrolyte layers and method of manufacturing the same.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T Ha whose telephone number is 571-272-1974. The examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Nguyen T. Ha', with a stylized, cursive script.

Nguyen T. Ha
January 3, 2005